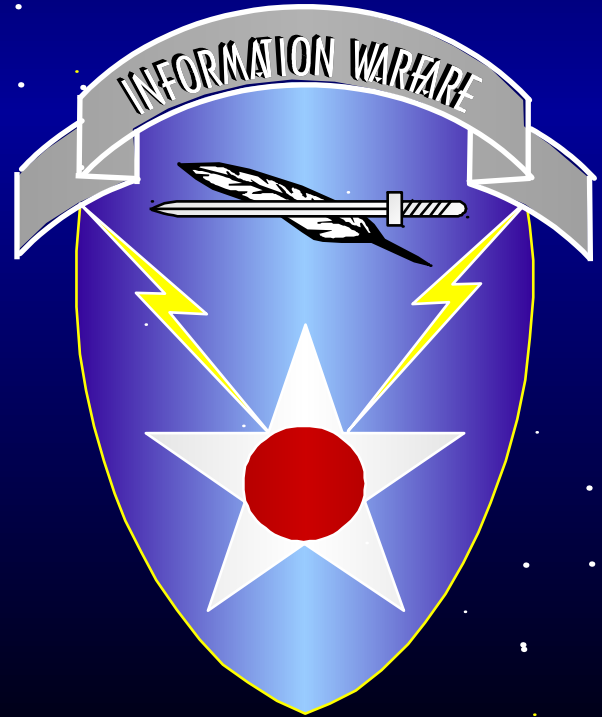




College of Aerospace Doctrine, Research, and Education

Physical Attack IW-140



Overview

- **AFDD 2-5 Definition**
- **History of Physical Attack/Targeting**
- **Impact of Technology on the Targeting Process**
- **Examples**

AFDD 2-5

INFORMATION

SUPERIORITY

INFORMATION

OPERATIONS

INFORMATION-in-WARFARE

gain



exploit

Precision Nav & Position	ISR	Weather
Other Info Collection/ Dissemination Activities		PAO

INFORMATION WARFARE

defend



attack

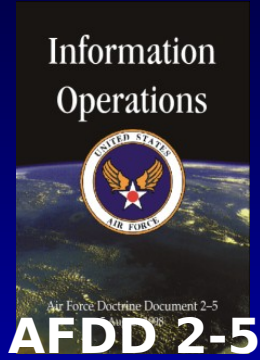
COUNTERINFORMATION

DEFENSIVE COUNTERINFORMATION		OFFENSIVE COUNTERINFORMATION	
Information Assurance	Counter-intelligence	PSYOP	Physical Attack
OPSEC	Counter-Propaganda	Military Deception	Electronic Warfare
Electronic Protect	Counter-Deception	CNA	PAO
CND	PAO		

**Successfully executed
Information Operations
achieve information superiority**

Physical Attack

- ... is an element of an integrated IO effort
- ... refers to the use of “hard kill” weapons against information & info systems
- ... disrupts, damages, or destroys adversary targets through destructive power



Targeting History

- **World War I**
 - Little technological development
- **Post-war years**
 - Generic target list
- **World War II**
 - National Objectives
- **Korean War**
- **Cold War**
- **Vietnam War**



Targeting History

- **Persian Gulf War**
 - **Defined targeting process**
 - **More peace-time planning**
 - **Lack of combat assessment**
- **Post-Persian Gulf War**
 - **Smart weapons targeting**
 - **Reduced force structure/capabilities**



THE TECHNOLOGICAL REVOLUTION



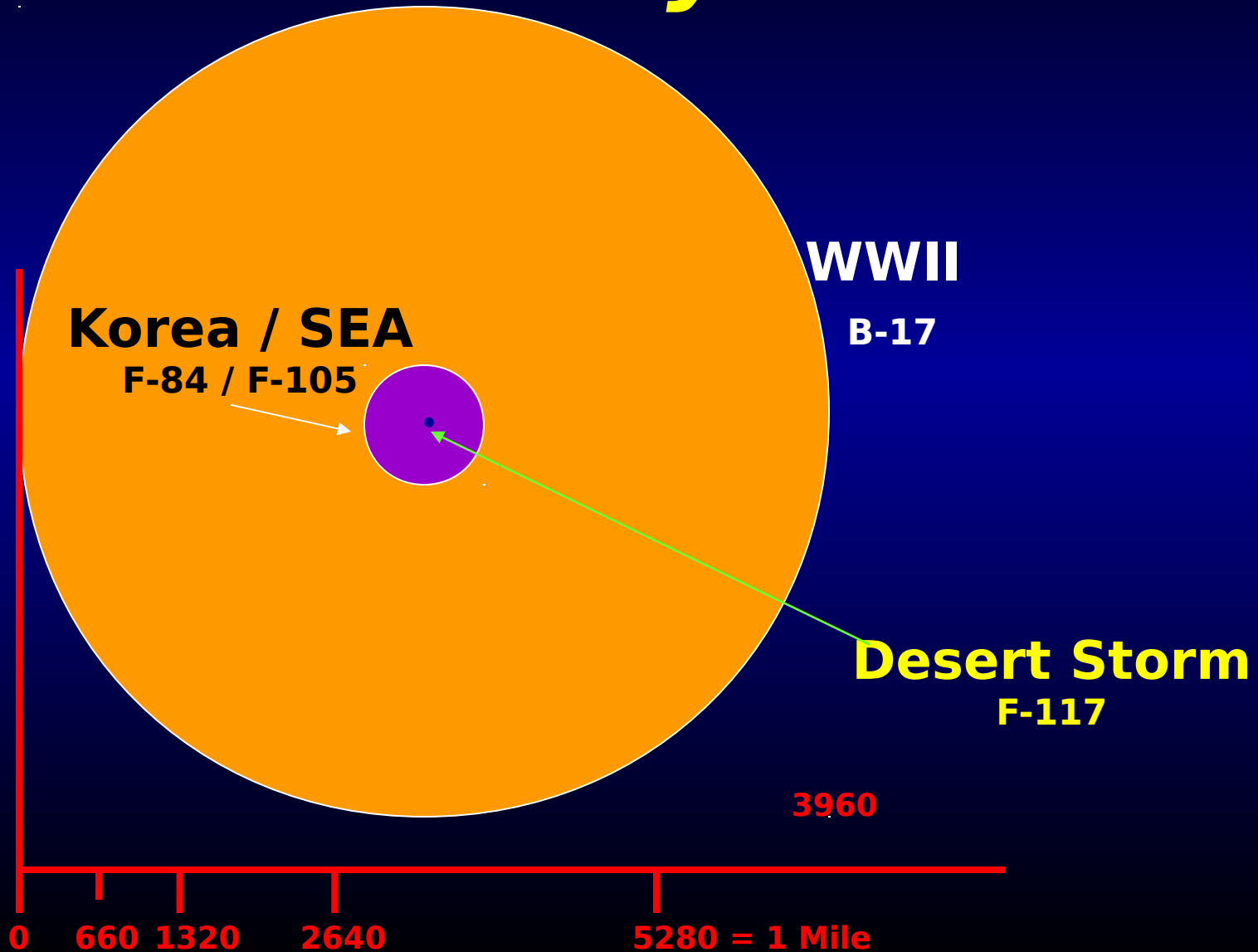
Improved Delivery

90% PROBABILITY OF HIT 2000 LB BOMB

CONFLICT QUANTITY**	CEP* (FT)	
WWII B-17 9070	3300	
KOREA/SEA (F-84/F-105) 176	400	
DESERT STORM F-16	200	30
DESERT STORM F-117	< 10	1

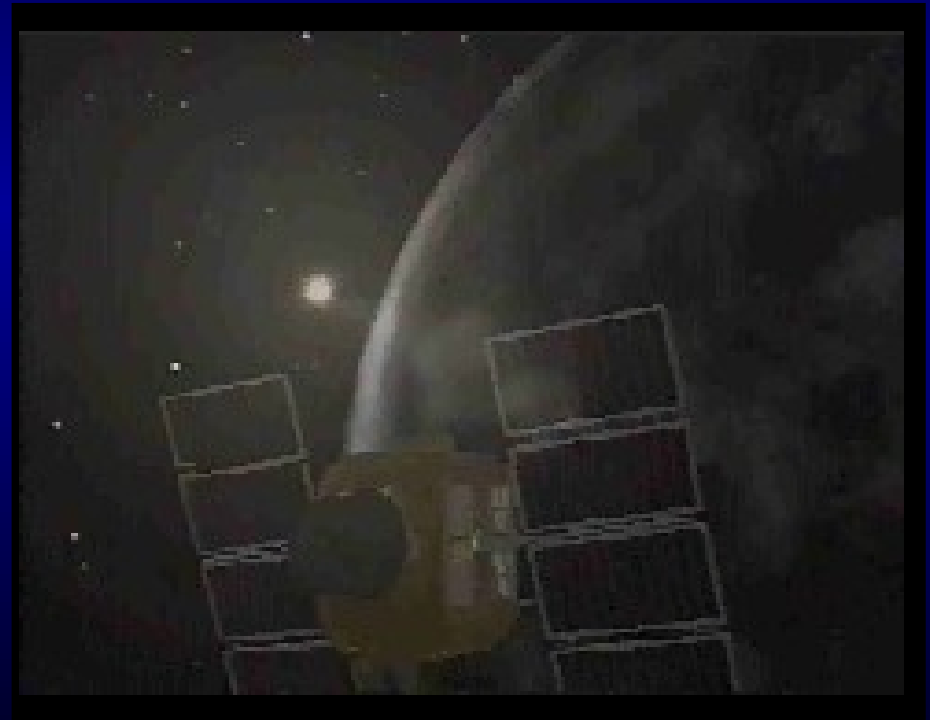
* CEP = Circular error of probability, the radial distance from a point in which 50% of all bombs will land.

Increasing Levels of Accuracy



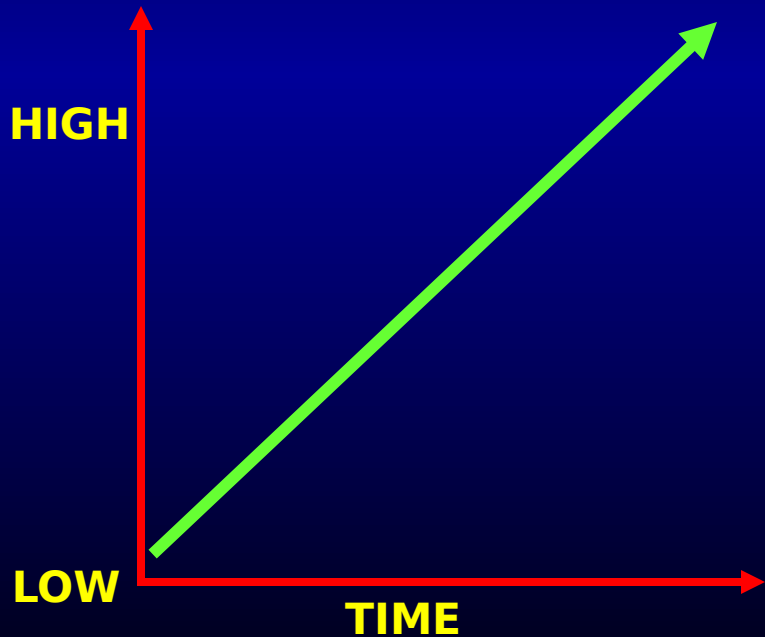
Precision Navigation and Physical Attack

- **PNP...**
 - have **enhanced accuracy of weapons and delivery platforms**
 - provide air, land, sea, space, and info ops the capability to attack targets in sensitive areas
 - greatly reduces the number of aircraft and sorties required to neutralize or destroy a target

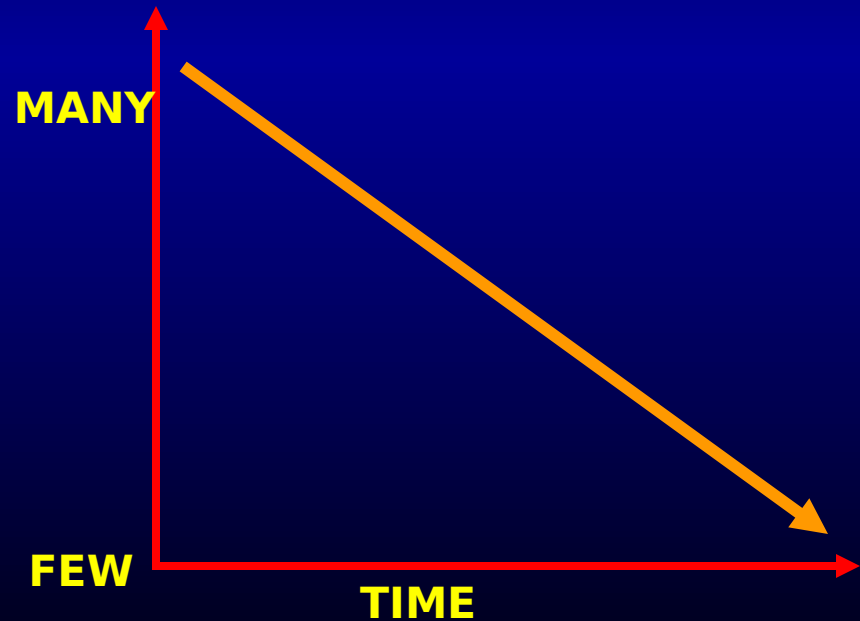


The Payoff

**Increased Cost/Complexity
over Time**



**Bombs Needed to Meet
Targeting Plan
over Time**



Impact?

- **What Targets do you attack with high-valued munitions?**
 - **Foxholes/Frontline Forces?**
 - **Tank Formations?**
 - **Chinese Embassies?**
 - **or Leadership, C2 and other information nodes?**
- **Airpower is well suited to be instrument of choice for doing IW physical attack mission**



When is a Physical Attack an IW Attack?

- **Key to Physical Attack being an IW action depends on what you are going after**
- **For it to be IW, an adversary's information or information systems must be the target of the physical attack**

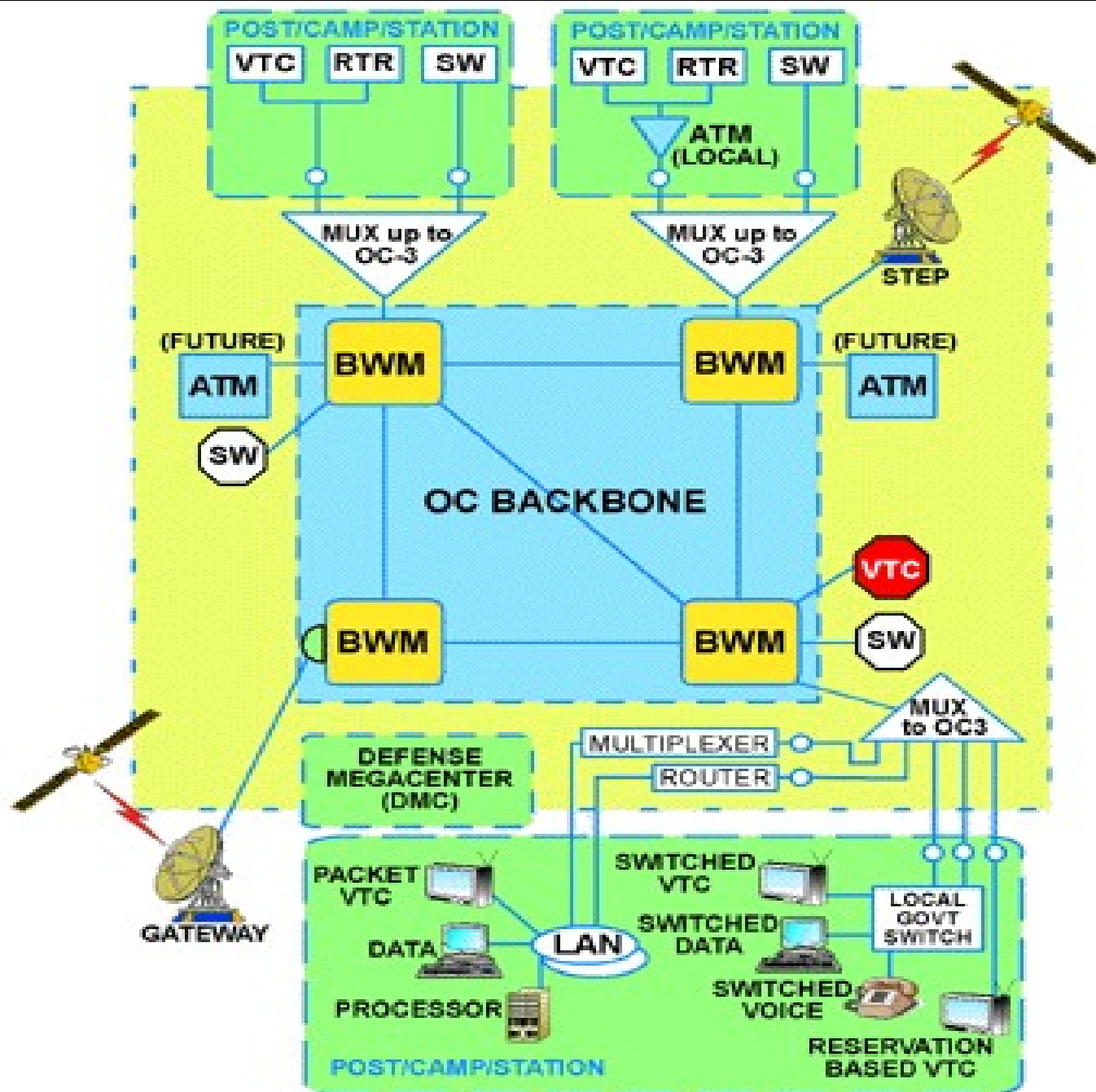
Potential IW Targets

- **HQs:**
 - President, Sec Def, Intel, Component Forces, Field & Naval HQs
- **IADS:**
 - HQs, Sector Operations Centers, Radars, EW/GCI, SAM
- **Communications:** A
- **SIGINT:** All



A Short Quiz

**Examples of IW Physical
Attack or Not?**



○ = SERVICE DELIVERY POINT (SDP)

IW Physical Attack?

- **Electrical Power Sources:**
 - **Generator Stations**
 - **Transformers**
 - **Switching gear**



IW Physical Attack?

Kosovo-Cuprija Bridge - 10 May 99



IW Physical Attack?



State of the World Today

“Challenging US armed forces head-on is a costly and painful affair. Cyberspace may well emerge as the preferred medium in a foe’s search for strategic vulnerability.”

**Post Desert Storm comment by former
US military senior officer**

Review

- **AFDD 2-5 Definition**
- **History of Physical Attack/Targeting**
- **Impact of Technology on the Targeting Process**
- **Examples**

Questions ?

A dramatic scene featuring a fighter jet, possibly an F-15, flying through the upper portion of a massive, intense nuclear explosion. The explosion is characterized by bright orange and yellow flames and a large, billowing cloud of dark smoke and debris at the base. The jet is positioned in the upper right quadrant, appearing to fly towards the left. The overall background is dark, emphasizing the brightness of the explosion.

U.S. AIR FORCE
WE DELIVER